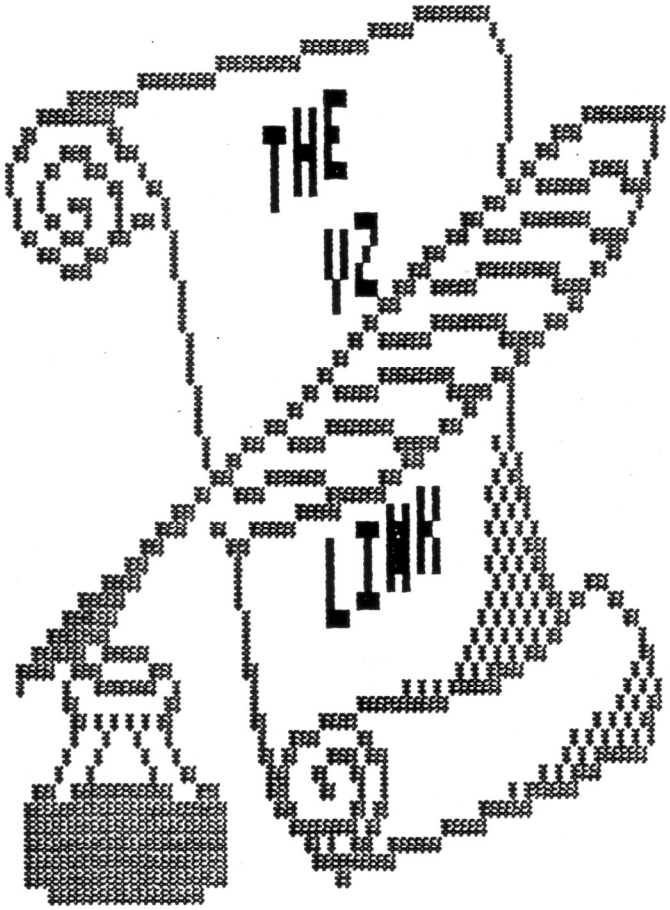
VZ-LINK
MAGAZINE

NEW ZEALAND

VZ 300/200
COMPUTER USERS CLUB

ISSUE 31



MAY 89

COMMENTS

Well,It's that time of month again.
Here is the MAY issue of VZ link,I hope you enjoy it.

As you can see by the notice below it is time for another VZ Workshop/Meeting. I hope you can all attend.

If you intend bringing your VZ then please bring a power lead.
Also if someone could bring their Printer it would be Great.
I hope to have a Visitor from Australia as guest at the meeting.

I would once again like to thank those people that supplied Items for this newsletter.

I hope you Like the cover which is done using "ART GALLERY". A very fine program written by Bruce Kitch.

I would like to Acknowledge and Thank Mark Harwood, and VZ USER Newsletter (Australia) for permission to use items from his Newsletter.
Program " backup" and the software review are just two of the many fine items from this source.

CORRECTION.
The Crossword program in Issue 27- December 88 was written and supplied by John Hope of Wellington.
I am sorry about the Error.

****
AUCKLAND VZ 300/200 COMPUTER USERS CLUB
****

VZ USERS-WORKSHOP/MEETING

WE WILL BE HOLDING A VZ USERS WORKSHOP ON:-

SATURDAY 27TH MAY 1989
STARTING AT 10-30 AM

AT THE :-

OWAIRAKA BAPTIST CHURCH
119 RICHARDSON ROAD
OWAIRAKA

BRING YOUR FAVOURITE SOFTWARE ETC
BRING YOUR PROBLEM'S

A LIGHT LUNCH WILL BE PROVIDED,BUT PLEASE BRING A PLATE TO HELP

MONSTER HUNT

PART TWO
WRITTEN BY KEITH WRIGHT

```
2530 IFK=4,PRINT"THE ";G$;" IS TIRING":MT=MT-1
2540 IFK=5,PRINT"YOU ARE BLEEDING !":WI=WI-1:HT=HT-1
2550 IFK=6,PRINT"YOU WOUND THE ";G$:MT=MT-1
2560 IFRND(0)>.25ANDHT*MT>0,FORT=1TO990:NEXTT:GOTO2440
2570 IFHT<MT,2600
2580 PRINT"YOU'VE SLAIN THE ";G$
2590 ST=ST+2:DE=DE+2:WI=WI+2:CH=CH+2:IT=IT+2:CO=CO+2:MK=MK+1
2595 GOTO2670
2600 PRINT"THE ";G$;" GOT THE BETTER":PRINT"OF IT THAT TIME......"
2610 IFZ=1ORQ=1,ST=4*INT(ST/5)
2620 IFZ=2ORQ=2,CH=3*INT(CH/4)
2630 IFZ=3ORQ=3,DE=2*INT(DE/3)
2640 IFZ=4ORQ=4,IT=6*INT(IT/7)
2650 IFZ=5ORQ=5,WI=5*INT(WI/6)
2660 IFZ=6ORQ=6,CO=INT(CO/2)+1
2670 A(RO,8)=0
2680 FORZ=1TO270:NEXTZ
2690 RETURN
2700 '
2710 '
2890 '"▲▲▲ END OF GAME
2900 PRINT
2910 SC=0:IFQU<>4,2950
2930 PRINT"  I DIDN'T THINK YOU WOULD BE A
2940 PRINT"QUITTER !":GOTO2990
2950 PRINT:PRINT" C O N G R A T U L A T I O N S  ":PRINT"  YOU HAVE DONE IT

2960 PRINTTAB(5);"FINISHED ALIVE AND WELL
2970 SC=100
2980 PRINT:PRINT
2990 SC=(SC+20*CA+47*MK+ST*2*CH+3*DE+4*IT+5*WI*6*CO)/QU*73
3000 IFMK<0,PRINT"  YOU KILLED"MK"MONSTERS
3010 PRINT"  YOU HAVE TREASURE WORTH ABOUT"
3020 PRINTUSING"$$########,.##";CA;:PRINT" (OR SO)
3030 PRINT:PRINT"  YOUR SCORE IS"SC*1E-4
3040 INPUT"ANOTHER";A$:IFLEFT$(A$,1)="N",3045ELSERUN
3045 RUN"MENU"
3050 '
3060 '"▲▲▲ DESCR. ROOMS
3065 PRINT"YOU ARE IN:-
3070 IFRO=1,3090ELSEIFRO=2,3140ELSEIFRO=3,3190ELSEIFRO=4,3240
3075 IFRO=5,3290ELSEIFRO=6,3340ELSEIFRO=7,3390ELSEIFRO=8,3440
3080 IFRO=9,3490ELSEIFRO=10,3540ELSEIFRO=11,3590ELSEIFRO=12,3640
3085 IFRO=13,3690ELSEIFRO=14,3740ELSEIFRO=15,3790
3090 PRINT"A VERY DAMP ROOM,I CAN'T SEE
3100 PRINT"THE WALLS FROM HERE
3110 FORZ=1TO1500:NEXT
3130 RETURN
3140 PRINT"A BRIGHT SUNNY CORRIDOR,2 DOORS
3180 RETURN
3190 PRINT"A ROOM WITH A HIGH CEILING
3230 RETURN
3240 PRINT"THIS SEEMS TO BE A CELLAR WITH"
3250 PRINT"DOORS ON 3 SIDES
3280 RETURN
3290 PRINT"THIS LOOKS LIKE A CELLAR WITH"
3300 PRINT"DOORS ON 3 SIDES
3330 RETURN
3340 PRINT"A ROOM WITH STRANGE PICTURES &
3350 PRINT"HIGH, BARRED WINDOWS":FORZ=1TO1500:NEXT
3380 RETURN
3390 PRINT"A ROOM WITH AN EVIL AURA---
3430 RETURN
```

```
3440 PRINT"A SULPHUROUS VAULT WITH 2 DOORS
3480 RETURN
3490 PRINT" A DARK CHAMBER WITH STALE AIR
3530 RETURN
3540 PRINT"A CAVE WITH ONLY ONE EXIT
3580 RETURN
3590 PRINT"A TOMB WITH 3 ESCAPES & A TRAP
3630 RETURN
3640 PRINT"A ROOM WITH A DANGEROUS FLOOR
3680 RETURN
3690 PRINT"AN EVIL PLACE WHERE MANY HAVE":PRINT"DIED HORRIBLY
3730 RETURN
3740 PRINT"A ROOM WHERE BLOOD LIES DEEP
3780 RETURN
3790 PRINT"A DIRTY LITTLE CELLAR
3830 RETURN
3840 '
3850 '"▚ DESCR OBJECTS
3860 PRINT
3870 PRINT"  YOU HAVE IN HERE:-
3880 IFA(RO,5)<>0,PRINTTAB(4);O$(A(RO,5))
3890 IFA(RO,6)<>0,PRINTTAB(4);O$(A(RO,6))
3900 IFA(RO,7)<>0,PRINTTAB(4);O$(A(RO,7))
3910 FORZ=1TO220:NEXTZ
3920 PRINT
3930 RETURN
3940 '
3950 '"▚▚▚ START-UP
3960 DIMA(16,8),P(5),O$(8),V(20),M$(8),T(5):COLOR2,1
3970 '"▚ HUMAN ATTRIBUTES
3980 ST=INT(RND(18)+3)
3990 CH=INT(RND(18)+3)
4000 DE=INT(RND(18)+3)
4010 IT=INT(RND(18)+3)
4020 WI=INT(RND(18)+3)
4030 CO=INT(RND(18)+3)
4040 CA=0
4050 RO=INT(RND(6)+9):IFRO=9ORRO=10ORRO=13ORRO=14,4060ELSE4050
4060 QU=1
4070 MK=0
4080 C$=""
4090 '"▚▚ SET UP ROOMS
4100 FORX=1TO16
4110 FORY=1TO4
4120 READA(X,Y)
4130 NEXTY
4140 NEXTX
4150 '"▚ DISTRIBUTE LOOT
4160 FORZ=1TO8
4170 READO$(Z),V(Z)
4180 NEXTZ
4190 FORQ=5TO8
4200 Z=INT(RND(15))+1
4210 IFA(Z,5)<>0,SOUND31,1:GOTO4200
4220 A(Z,5)=Q:'"▚ OBJECT NO. IN ROOM
4230 NEXTQ
4240 PRINT
4250 '"▚ SET MONSTERS UP
4260 FORJ=1TO8
4270 READM$(J)
4280 Z=INT(RND(15)+1)
4290 IFA(Z,8)<>0,SOUND1,1:GOTO4280
```

```
4300 A(Z,8)=J
4310 NEXTJ
4330 CLS
4340 RETURN
4350 '
4360 '"▚ ROOM DATA
4370 DATA0,4,0,0:REM #1
4380 DATA 0,5,3,0
4390 DATA 16,0,0,2:REM#3
4400 DATA 1,8,5,0
4410 DATA 2,0,6,4:REM5
4420 DATA 0,0,0,5
4430 DATA 0,13,0,0:REM7
4440 DATA 4,11,0,0
4450 DATA 0,12,10,0:REM#9
4460 DATA 0,0,0,9
4470 DATA 8,14,12,0:REM#11
4480 DATA 9,0,13,11
4490 DATA 7,0,0,12:REM#13
4500 DATA 11,0,15,0
4510 DATA 0,0,0,14:REM#15
4520 DATA 0,3,0,0
4530 '"▚▚ OBJECT DATA
4540 DATA"RING",567
4550 DATA"KEY",12
4560 DATA"LOCKETT",27
4570 DATA"GOLD",799
4580 DATA"SWORD",0,"AXE",0
4590 DATA"MONEY",420
4600 DATA"DIAMOND",521
4610 '"▚▚▚ MONSTER DATA
4620 DATA"JABBERWOCK"
4630 DATA"BANDERSNOT"
4640 DATA"DRAGON"
4650 DATA"FIEND MOUSE"
4660 DATA"WILD WORM"
4670 DATA"TAXRAT"
4680 DATA"PIGLET"
4690 DATA"POLITICIAN"
4700 END
```

BACKUP

DISK TO TAPE BINARY COPIER

When the VZ drive became available, there was the sudden demand for a program to transfer programs and data from the tape format over to the disk format. Now that disk drives are becoming more and more popular, requests have been made for the reverse - a disk to tape copier (for binary files). Although commercial packages are available, here's a short dedicated routine to do the job. It seems that many users would like to keep backups of their files on tape, and hence the need for such a copier.

It is designed for 'B' files only, since BASIC programs can simply be LOADed and then CSAVEd. The file produced on tape will also be a 'B' file, which will auto-run upon loading. The routine is also of interest as it uses a mixed collection of BASIC, cassette and DOS routines. You can enter either the assembly language version via the Editor Assembler, or the BASIC version. Both are located in hi-res memory, which means that all of user RAM is available to load the program into. Screen flicker is severe at one point as a result, but I think it's worth it for the added flexibility. I've found this routine will copy 90% of binary programs.

```
001 ;*************************
002 ;*DISK TO TAPE BINARY COPY*
003 ;*  SET ORIGIN TO 29184   *
004 ;*************************
005 ;
006 STAR CALL 01C9H          ;clear screen
007 ST   LD   HL,MES1        ;display prompts
008      CALL 28A7H
009      CALL 1BB3H          ;input filename to copy
010      JR   C,STAR         ;re-start if CTRL-BREAK pressed
011      LD   HL,31210       ;point HL to INPUT buffer
012      XOR  A              ;search INPUT buffer for
013 LOOP CPI                 ;zero byte at end of input
014      JR   NZ,LOOP
015      DEC  HL             ;point to zero byte
016      LD   A,32           ;and replace with a space
017      LD   (HL),A
018      PUSH HL             ;save end point of input
019      PUSH IY             ;transfer IY into DE
020      POP  DE
021      INC  DE             ;& point DE to filename vector
022      LD   HL,31210       ;HL to start of INPUT buffer
023      LD   BC,8           ;no. of bytes to copy
024      LDIR                ;& copy filename
025      LD   (IY+09),42H    ;select 'B' file to load
026      DI                  ;disable interrupt for disk
027      CALL 4008H          ;start drive
028      CALL 4041H          ;& load file from disk
029      OR   A              ;handle errors
030      JP   NZ,400EH
031      EI                  ;enable interrupt
032      LD   A,34           ;place " at start of filename
033      LD   (31209),A      ;in INPUT buffer
034      POP  HL             ;get back end of buffer
035      LD   (HL),A         ;& place " here too
036      LD   HL,MES2        ;display tape prompt
037      CALL 28A7H
038 SCAN CALL 2EF4H          ;wait for RETURN keypress
039      CP   0DH            ;(this loop causes flicker)
040      JR   NZ,SCAN
041      LD   HL,31209       ;point HL to start of "FILENAME"
042      LD   C,0F1H         ;select 'B' type save
043      DI                  ;disable interrupt for tape
044      CALL 34ACH          ;& save program to tape
045      CALL 3450H          ;beep to indicate finish
046      LD   HL,31209       ;point HL to buffer again
047      EI                  ;enable interrupt
048      LD   HL,MES3        ;display end message
049      CALL 28A7H
050      JP   ST             ;restart routine
051 MES1 EQU  $
052 *INSERT PROGRAM DISK*
053      DEFB 0DH
054 *FILENAME TO COPY*
055      DEFB 0DH
056      DEFB 00
057 MES2 EQU  $
058      DEFB 0DH
059 *START TAPE, HIT RETURN*
060      DEFB 00
061 MES3 EQU  $
062      DEFB 0DH
063 *STOP TAPE. SAVE COMPLETE*
064      DEFB 0DH
065      DEFB 00
```

SEE NEXT PAGE FOR BASIC PROGRAM

```
10 FOR Z=29184 TO 29372: READ A: POKE Z,A: C=C+A: NEXT Z
15 IF C<>18640 THEN PRINT"DATA ENTRY ERROR": END
20 POKE 30862,0: POKE 30863,114: X=USR(0)
30 DATA 205,201,1,33,100,114,205,167,40,205,179,27,56,242,33,234
40 DATA 121,175,237,161,32,252,43,62,32,119,229,253,229,209,19
50 DATA 33,234,121,1,8,0,237,176,253,54,9,66,243,205,8,64,205
60 DATA 65,64,183,194,14,64,251,62,34,50,233,121,225,119,33,138
70 DATA 114,205,167,40,205,244,46,254,13,32,249,33,233,121,14
80 DATA 241,243,205,172,52,205,80,52,33,233,121,251,33,162,114
90 DATA 205,167,40,195,3,114,73,78,83,69,82,84,32,80,82,79,71,82
100 DATA 65,77,32,68,73,83,75,13,70,73,76,69,78,65,77,69,32,84
110 DATA 79,32,67,79,80,89,13
120 DATA 0,13,83,84,65,82,84,32,84,65,80,69,44,32,72,73,84,32,82
122 DATA 69,84,85,82,78,0,13,83,84
125 DATA 79,80,32,84,65,80,69,46,32,83,65,86,69,32,67
130 DATA 79,77,80,76,69,84,69,13,0
```

MORE VZ ROM ROUTINES

By Daniel Ayers

Here are some further ROM routines for the VZ user, provided by Daniel. Routines will be listed with locations in hex & decimal and a brief outline of their function.

HEX	DECIMAL	FUNCTION
30DH	781	Prints at the current cursor position (stored at 30752/3) what is supposed to be there (stored at 30780).
317H	791	Moves cursor up one line.
32AH	810	General use printing entry point. Checks device code (30876). Jumps to 31169 before checking code #. Jumps to 15188 if tape, 924 if printer or continues on to 826 if screen.
33AH	826	Printing-to-screen entry point. Prints character in A to screen at current cursor position.
FAFH	4015	Prints number currently in HL.
3AE8	15080	Tests BREAK. If pressed, returns with cf (carry flag) set, otherwise returns with cf reset.
3AF8H	15096	Tests BREAK. If pressed, prints BREAK then executes editor. If not pressed, returns.
3AFCH	15100	Pseudo-break.
37F4H	14324	Used to print cassette message pointed to by HL on bottom line of screen.
3EF6H	16118	Places space (inverse or normal) at screen position 28672-30719 pointed to by HL.

HEX	DECIMAL	FUNCTION
39CH	924	General use printing routine. If character in A is 12, sets printer column to 0.
3E3H	995	Screen Editor routine.
4A5H	1189	Printer error routine. Prints "?SYNTAX ERROR" using routine at 10407 (data at 15898), then jumps to editing routine at 995.
471H	1137	Interprets Line Input Buffer (31208 31271).
19A2H	6562	General error routine entry point. Error code is in E. calls 31142 before printing message (routine at 15572).
1B2CH	6956	Searches Basic program area for line contained in DE (0-65529). Returns with address in HL.
2E71H	11889	Prints line starting at address HL.
1E5AH	7770	Converts ASCII codes of number pointed to by HL into an integer in DE.

DO'S AND DON'TS OF COMPUTER CARE

This article will look at what to do in the event of your VZ not functioning properly. The golden rule is do not panic. In most cases it will be something simple that you, the user have overlooked. The most common faults in order of occurance are;

1. Operator error.

2. Software failure

Hardware defects, usually the most difficult and costly to repair are the least likely culprits.

Errors

The simplest problem you are likely to encounter is an error message on the screen. An error message on the screen means you asked the computer to do something it can't handle. The user's guide that comes with your computer includes a list of error messages and what they mean. If, after reading your manual, you still don't understand some of them, ask a computing friend or someone at a user's group meeting.

Most of the standard error messages relate to program errors. "Syntax error?", for example, which is the computer's way of saying "Huh??", means you've misspelled or mispunctuated an instruction to the computer, or placed it in the wrong sequence.

Is the power on?

A significant percentage of repair calls for any kind of appliance result from not plugging in the unit or failure to set a switch properly. Your computer system is complex, with many switches and cables that can come loose. The first thing to do when one component doesn't respond is to turn off the power and systematically check all connections to make sure they're firmly seated.

check the power cables for the computer and each peripheral at both ends. Trace the cables from the computer to the printer, disk drive, cassette unit and any other devices you have connected, testing each connection. Is the monitor cable hooked up right? Do you have it connected to the proper port for either TV or monitor?

If you use a multi-plug box, is it plugged in and turned on, and is the circuit breaker (if fitted) not tripped? Also check extension cords in your system. Do you have power to the wall outlets you are using? Check them by plugging in a lamp and turning it on. If the plug is dead check the fuse or circuit breaker on your meter board.

Now turn the system on, one piece at a time; first the monitor, then the computer, disk drive, finally the printer. Check each unit to see that the power light is on, and double check the switch and power cords for any that don't light.

Disk Drives

Some of the most annoying problems computer users have are with disk drives. Many of these difficulties are intermittent and mysterious; that is, sometimes the drive works fine, and sometimes it doesn't.

The most common problem is trouble loading a program. There are several things to try if this happens. First, check to see if the drive door is closed. On some drives, if the disk is slightly crooked when you insert it the door mechanism may pinch it and make the disk hard to read. Be sure the disk is squarely and firmly seated against the back of the drive, and **never** force a disk into the drive.

If you still can't load the program, perhaps it's located on a damaged part of the disk. Next try another disk. If you can load from it all right, then probably the first disk is damaged (Now you know why you kept a back-up copy). If the malfunctioning disk was written on someone else's drive, the problem could be that the head alignment is off on either that one or yours, or even both. There's no cure for that situation except to rewrite the disk on a drive that is properly aligned and then make sure yours is too.

You can suspect that your drive's alignment is drifting when you have trouble with several disks. The alignment on most drives goes out over a time, especially if you use many programs that rattle the head as they load. As long as you can load commercial software (excluding 10th generation illegal copies), you can assume your alignment is all right.

When a single program crashes while you're running it, the most likely cause is an operating mistake you've made.

The chances are that some day you will have a problem with your disk drive. The best precaution is to make frequent backups of your data and programs. than when a dis(k)aster hits, at least you won't loose the fruits of hours of work.

Printers

The printer is usually the hardest component of a computer system to deal with, because it's often the least standard component. Most printers have DIP switches that must be set when you connect the printer to the system

You must make sure that the switches are set correctly. If you don't know what DIP switches are, read the manuals or ask an experienced user to help. **Always change DIP switch settings with the power off.**

Software incompatibility is the likely villain when your printer works with some programs but not with others. Many programs such as word processors and spreadsheets, come with configuration (setup) programs you have to run before the main program will work with your printer. Check the software instructions. Also, keep in mind that many programs that print out hi-res graphics won't work with some printers.

Conclusion

Having read this far through the article, you should have some idea what to do if your system "falls over".

Remember:

1) Don't panic
2) Hardware defects are the least likely problem
3) Read your manual for help
4) Check you have power
5) Back up your disks **NOW!!!** if you haven't already
6) Check all cables and connections
7) **Don't** explore the internals **unless** you have some knowledge of digital circuits

GAMES REVIEW

VZ Asteriods from DSE is one of their best available VZ games. For $14.95 you get a quite addictive high resolution shoot em to bits action packed game promising hours of fun.

It is based on the origin of a game which I think was actually called asteriods, but I'm not quite sure because of the various versions floating around. The idea of the game is to destroy all the asteriods that are floating about you. The only trouble is, when you shoot them, they break up into smaller pieces that are just as deadly as the larger ones and the is also. the occassional UFO that flies in and shoots back at you.

You are given a 360 degree turning lazer gun equipped with hyperspace and thrust. The thrust direction is determined by the way the lazer points and the longer you thrust the faster you'll go. It is advised that hyperspace be used with extreme caution as it propells you to a random position in space and you may wind up directly in the path of a asteriod. A stage is completed when all asteriods are destoyed. A new screen full a more and much faster moving asteriods will then be displayed.

This game, like most other good ones, is written by Dubios and Mc Namara who seem to be somewhat experts in this field. The program is written in machine language called from basic and starts off, once run, with the usual JOYSTICKS Y OR N statement.

THE SCORING IS AS FOLLOWS:

LARGE ROCKS - 100 points
MEDIUM ROCKS - 50 points
SMALL ROCKS - 20 points
UFO s - 1000 points

An extra man is also awarded for every 10000 points.

This is one time when I would suggest that the joysticks would not be easier than the keyboard to use. As shown below, pulling the joystick down is hyperspace and it is not hard, as I soon found out, to be changing your direction of rotation and accidently pull the joystick down slightly whilst moving across from side to side. This results in a hyperspace and as previously mentioned, this may, if the screen were crowded, cause certain death.

*** CONTROLS ***

FUNCTION	KEYBOARD	JOYSTICK
turn left	U	LEFT
turn right	I	RIGHT
thrust	O	UP
hyperspace	P	DOWN
fire	Z or SPACE	FIRE

LOADING TIME:	Disk-	sec.
	Tape-	min.
GRAPHICS.....	*****	
SOUND.....	**	
ANIMATION....	*****	
OVER ALL.....	*****	

Excellent use is made of the high res. graphics, the title page being a most impressive feature. It also allows for a 2 player game on either joysticks or keyboard. The only criticism I have is about sound effects which seem to be nearly non-existant. The only sounds to be heard are when you fire, when you hit a rock with a shot and when a UFO fires. There should in distinguishing your shots from the UFO's, as yours are blue and his are yellow. You should be used to avoiding yellow after a few screens.

Cutting the margin

By L. Clarke & A.R. Hill

These hints may help you shorten a line which is marginally too long to type into the 64 character input buffer (ie, exceeds two lines on the screen).

The word, "PRINT" may be entered as a question mark (?) saving four character spaces. The word, "REM" or ":REM", may be replaced by an apostrophe ('), saving either two or three character spaces.

The computer will convert the (?) to the token for "PRINT" when it is stored in the memory, so that when the line is listed, it will appear as "PRINT". If the line then exceeds 64 characters on the screen, it will "wrap around" onto the next line, but will still function normally. Of course, the on screen editor uses the input buffer, and any attempt to edit a line exceeding 64 characters will result in the loss of all text after the 64th character displayed on the screen!

The following functions must be POKEd into an existing line in a BASIC program.

Example 1:

If the first line of a program is used (eg, line number 1), then the first memory location past the line number is 31469. This does not change regardless of the number of digits in the line number because all line numbers are stored in memory as a two byte code.

Example 2:

If you want use any of the following functions in the middle of a program — just type up to the place where you wish to insert the function, place a dummy character in that position, and press [RETURN].

Immediately (with no line number) type in the following

PRINT PEEK(30969) + 256 * PEEK(30970) −4.

This will give you the memory location of the last character you typed into the last program line (in this case the dummy character). Memorise this number (write it down!) then finish typing in the BASIC line, continuing immediately after the dummy character.

When you have finished typing in the line, LIST it and check it is correct, because once you have POKEd the function code into the memory location in which your dummy character is stored, you will not be able to edit that line!

You may now POKE the function code into the memorised location which holds the dummy character. If the memory address should exceed 32767, it is first necessary to subtract 65536 to reduce it to an integer for the POKE command to work.

It is assumed you have made no changes (insertions or deletions) to the program before the dummy character, because these would have changed its memory location.

Function No	How to Use	Description
RANDOM 134	1# POKE31469,134	Makes RND( ) statement more random.
DEFINT 153	1#A,B POKE31469,153	Defines all variable starting with "A" or "B" as being integers.
DEFSNG 154	1#C,D POKE31469,154	Defines all variables starting with "C" or "D" as being single precision (6/7 digit floating).
DEFDBL 155	1#E,F POKE31469,155	Defines all variables starting with "E" or "F" as being double precision (16/17 digit floating).
ON 161	1# POKE31469,161	Used with ON GOTO, ON GOSUB or ON ERROR (see below).
ERROR 158	1#* POKE31469,161 POKE31470,158	Used as "ON ERROR GOTO line no".
RESUME 159	1# 1#100 1#100 NEXT POKE31469,159	After error, return to error point. After error, GOTO 100. After error, return to the line after the one producing the error.
DELETE 182	1#150-300 POKE31469,182	Deletes lines 150 to 300 inclusive. Both lines 150 & 300 must exist.
AUTO 183	1# POKE31479, 183:RUN	Automatically prints line numbers starting at 10, increment of 10.
AUTO 183	1#500, 20 POKE31469, 183:RUN POKE30945,175	Automatically prints line numbers starting at 500, increment of 20. AUTO will print any existing lines found. If the AUTO function was halted with [BREAK], it will now continue from that point.
VARPTR 192	1#(X) POKE31469,192	Used to locate the memory address of a variable.
STRING$ 196	1PRINT#(12,45) POKE31470,196	Will print 12 asterisks "*" (maximum length of string = 256 characters).
MEM 200	1PRINT# POKE31470,200	Tells the amount of unused memory left.
FRE 218	1PRINT#(A) POKE31470,218	Tells the number of unused bytes left in memory.
FRE 218	1PRINT#(A$) POKE31470,218	Tells the number of unused bytes left in the reserved string space.
CINT 239	1#Z POKE31469,239	Removes all digits after the decimal point.
CSNG 240	1#Z POKE31469,240	Converts numeric variable from double to single precision.
CDBL 241	1#Z POKE31469,241	Converts numeric variable from single to double precision.
FIX 242	1A=#(N) POKE31471,242	Removes all digits to the right of the decimal point. Doesn't round down negative numbers.
ERL 194	1PRINT# POKE31470,194	Returns the line number from which program branched to error routine.
ERR 195	1PRINT# POKE31470,195	Returns a value related to the type of error which last occurred.

These functions may be performed either with or without a line number.
For TRON (Trace ON) just POKE 31003,175
For TROFF (Trace OFF) just POKE 31003,0
The audible "beep" produced when a key is pressed can be controlled.
For BEEP ON just POKE 30779,32
For BEEP OFF just POKE 30779,0

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SOFTWARE FOR SALE

We now have the following software available for sale.
All prices shown include postage and packing anywhere in New Zealand.
Please make sure that the memory of your VZ is greater than or equal to the memory required by the software that you wish to purchase.
Memory sizes indicated do not include video ram.

ALL PRICES ARE SHOWN IN NEW ZEALAND DOLLARS.

BLACKJACK ROYALE	16K	$15.00	HAUNTED MANSION	22K	$15.00
CASTLE GREYSTONE	32K	$15.00	KNIGHTS QUEST	32K	$18.00
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GALACTIC EMPIRES	16K	$15.00	TRIVIAL CULT	16K	$ 8.00
GRAPHSTAR	22K	$24.00	VZ MONOPOLY V2.0	22K	$18.00

PLEASE MAKE ALL CHEQUES AND MONEY ORDERS PAYABLE TO-

AUCKLAND VZ 300/200 COMPUTER CLUB.

VZ DISASSEMBLER FOR SALE

This Disassembler is written by Peter Hickman.
And is also distributed as the "Laserlink Disassembler".

Peter is offering this very fine program to user group members for NZ$24.00.
All orders can be placed through this club,as peter has offered a cheaper price for bulk purchases.

The program is available on tape or disk.And comes in a 4 program version and
You choose which section you use depending on what memory you have.

ALL THESE PROGRAMS CAN BE DEMONSTRATED AT THE WORKSHOP IF REQUESTED

P.O.BOX 1972 C.P.O AUCKLAND N.Z

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